

REMARKS

The Office Action mailed September 28, 2004 has been reviewed and the comments of the Patent and Trademark Office have been considered. Claims 1, 3, 5, and 7-10 were pending in the application. Claims 1, 3, 5, 7, and 10 have been amended, claims 12-13 have been added and no claims have been canceled. Therefore, claims 1, 3, 5, 7-10, and 12-13 are pending in the application and reconsideration is respectfully requested.

This amendment changes and adds claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, are presented, with an appropriate defined status identifier.

Claims 3, 5, and 10 are objected to because of informalities. Claims 3, 5, and 10 have been amended to correct minor informalities noted in paragraph 3 of the Office Action.

Claims 1, 3, 5, and 7 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Applicants have amended the claims to address the issues noted in the Office Action and submit that these claims are now in definite form and meet the requirements of § 112, second paragraph.

In the Office Action, claims 1, 3, 5, 7, 9, and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,995,014 to DiMaria et al. (hereafter "DiMaria '014") in view of U.S. Patent No. 6,185,318 to Jain et al. (hereafter "Jain") in further view of U.S. Patent No. 5,594,646 to Itoh et al. (hereafter "Itoh"). Claim 8 is rejected under 35 U.S.C. § 103(a) as being unpatentable over DiMaria '014 in view of Jain and Itoh as applied to claim 1 above, and further in view of U.S. Patent No. 5,959,541 to DiMaria et al. (hereafter "DiMaria '541"). Applicants respectively traverse these rejections for at least the following reasons.

First, as acknowledged in the office action, none of the references discloses the claimed temporary recording unit (or step). Instead, the office action relies on official notice for disclosing this feature. However, the use of official notice is not appropriate with respect to an important feature in the pending claims in contrast to its use to just fill in the gap in an evidentiary gap. Accordingly, applicants respectfully request that the office action cite to a reference that discloses this feature in the context of the claimed invention as required by MPEP §2144.03.

Second, the processing flow in the context of the use of the claimed temporary recording unit is very different from the processing flow disclosed in DiMaria '014. In DeMaria '014, the *generated* personal characteristic topographical pattern is compared to a pattern stored in a memory unit and if there is no match the same generated pattern (used in the comparison) is stored at either the terminal or the host. In sharp contrast, the claimed independent claims 1 and 10 recite that the temporary recording unit directly stores the fingerprint data (i.e., a copy outputted by the fingerprint reader unit) while the fingerprint data is processed (through an image processing unit and a feature extraction unit) for comparison in the fingerprint comparing unit with fingerprint data stored in a fingerprint database. When the fingerprint comparing unit does not identify the fingerprint, the temporary fingerprint data in the temporary recording unit (and NOT the data used in the fingerprint comparing unit) is stored in the user recording unit.

This feature provides the advantage that any subsequent malfunction analysis deals with the read fingerprint data directly rather than also deal with additional errors or complications that may be introduced in the generation and comparison process. Neither, this recited feature nor its advantage is disclosed or suggested by the applied prior art.

Third, with respect to the motivation to arrive at the applicants' invention, the motivation asserted by the office action that "it would have been obvious to one of ordinary skill in the art to have modified the storing of the input fingerprint disclosed by DiMaria '014 to include a temporary recording unit in order to minimize the storage requirements," appears to be based on an impermissible hindsight reconstruction based on applicants' own disclosure since DiMaria '014's method of not storing the input fingerprint separately (for possible long term storage) in favor of saving the generated fingerprint actually does not require the claimed temporary recording unit and saves the storage required for the temporary storage unit. Therefore, absent the applicants' own teaching, the office action does not provide a proper motivation to arrive at the claimed invention based on the prior art and the knowledge of one skilled in the art.

Fourth, independent claim 1 is directed to a fingerprint identification device having a temporary recording unit for storing the temporary fingerprint data in order to thereafter narrow down a location of malfunction in the device. Claim 3 limits the temporary

fingerprint data to be a raw fingerprint data, claim 5 limits the temporary fingerprint data to be a corrected or compressed fingerprint data, and claim 7 limits the temporary fingerprint data to be a extracted image features.

As stated in the Office Action, DiMaria '014 discloses that, if there is no match, access is denied, and a host 50 or terminal 100 stores the time of attempted access with the *generated* physical characteristic topographical pattern in the data base 60 or memory unit 30. DiMaria '014 is, however, silent as to what this stored physical characteristic topographical pattern is used for. The office action further points out at, column 3, lines 44-50 of Itoh that, according to the self-diagnosis method of Itoh, each time a malfunction is detected through the self-diagnosis, the date and time of occurrence and details of the malfunction are stored in the memory means. Itoh is, however, silent as to a fingerprint identification device and the nature of the self diagnosis data stored by Itoh is very different from the fingerprint data stored in the claimed invention or in DiMaria '014 as explained next.

In a fingerprint device, when a fingerprint of an unauthorized user is read (together with fingerprints of authorized users), the fingerprint data is obtained by the one occurrence, and the same data cannot be obtained later. Therefore, the claimed fingerprint identification device needs to store the un-matched fingerprint data for a later system check, otherwise it is impossible to later check if the un-matched judgment was because the input finger pattern did not match the registered fingerprint data (for example, unauthorized pattern, a fingerprint with a band-aid tape, or any hardware failures in the device) or due to other causes. In other words, the un-matched fingerprint data is stored in the database because it is not re-occurring data. In the contrast, in Itoh, the data detected by the self-diagnosis, can be generated at any time in the hardware of the system or device (re-occurring data). Therefore, the reason to store un-matched fingerprint data is very different from any reason for storing the self-diagnosis data in Itoh and, therefore, the latter would not suggest the claimed invention in the context of fingerprint data. Therefore, since DiMaria '014 is silent as to why the not-matched physical characteristic topographical pattern is stored, it is not obvious for a person skilled in the art to use it for detecting a malfunction of a fingerprint identification device. Therefore, even the combination of DiMaria '014 and Itoh, does not suggest the features recited in the pending independent claims.

In view of the various reasons discussed above, none of the applied references nor their proper combination teaches or suggests the features or advantages of the invention recited in independent claims 1 and 10.

The dependent claims are also allowable for at least the same reasons as the independent claims on which they ultimately depend. In addition, they recite additional patentable features when considered as a whole. For example, dependent claims 12 and 13 recite additional features of the invention that are not disclosed or suggested by the applied prior art. These features are supported by Figs. 3-6 and its description in the originally filed specification. Accordingly, these features provide additional reasons for the patentability of these claims.

In view of the foregoing amendments and remarks, applicants respectfully submit that the application is now in condition for allowance. An early notice to this effect is earnestly solicited. If there are any questions regarding the application, or if an examiner's amendment would facilitate the allowance of one or more of the claims, the examiner is courteously invited to contact the undersigned attorney at the local telephone number below.

Should additional fees be necessary in connection with the filing of this paper, or if a petition for extension of time is required for timely acceptance of same, the Commissioner is hereby authorized to charge deposit account No. 19-0741 for any such fees; and applicants hereby petition for any needed extension of time.

Respectfully submitted,

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